American Refugee Committee International
Islamabad Office: House no. 4, Street 14, F-7/2 Islamabad, Pakistan
Tel: +92 51 2654101-3 Fax: +92 51 2654104 www.arcpakistan.org

PROVISION OF TRANSITIONAL SHELTERS AND CONSTRUCTION OF COMMUNAL LATRINES FOR EARLY RECOVERY IN EARTHQUAKE HIT VILLAGES IN DISTRICT PISHIN, BALOCHISTAN

Project Completion Report

April 2009

Executive Summery:

Headquarters:	Jess Pitner, Deputy Director of Field Operations American Refugee Committee (ARC) International 430 Oak Grove Street, Suite 204, Minneapolis, MN 55403 Tel: (612) 872-7060 Fax: (612) 607-6499 Email: jessp@archq.org
In Country:	Michal Barringer-Mills, Country Director House No. 4, Street 14-A, Sector F-7/2 Islamabad Tel: (051) 2654101-3 Fax: (051) 2654104 michael@arcpakistan.org

Project Title:	Provision of transitional shelters and construction of communal latrines for early recovery in earthquake hit villages in District Pishin, Balochistan
Cooperative Agreement No.	DFD-G-00-08-09-00034-00
Project Beneficiaries:	Earthquake affected community of district Pishin, Balochistan
Project Duration:	10th November 2008 to 10th March 2009
Project Location:	District Pishin, Balochistan Pakistan
Grant Awarded:	**USD 499,009**

Project Overview: The ARC early recovery strategy aimed at addressing the essential transitional needs of affectees of October 28, 2008 earthquake by assisting the communities of District Pishin, for transitional shelters and restoration of sanitation facilities at household level. ARC adopted a community-driven approach, economic enhancing and a multi-sectoral strategy that addressed most importantly the shelter and sanitation needs of the affected population along with supporting their livelihood. ARC mainly focused on shelter construction, provision of sanitation facilities and hygiene, and also supported reconstruction of 13 health facilities which were separately funded by ODRP and INQALAB (private funds). The project implementation was carried through cash for work schemes which involved the community and provided them technical skills and on-job trainings. This approach is consistent with USAID's objectives of disaster assistance to preserve life, minimize suffering, foster self-sufficiency, restore the economic status of the communities and enhance recovery. ARC has been present in Balochistan since 2002, providing comprehensive primary and reproductive health services to Afghan refugees spread in three large settlements. The ARC team in Quetta had good knowledge of the earthquake hit areas and therefore they were in a position to respond immediately to the situation and conduct assessment in district Pishin, Balochistan.

Emergency Background:

An earthquake of magnitude 6.4 struck Balochistan province, Pakistan on 29 October 2008. The epicenter of the quake was in Chiltan Mountains, 80 kilometers northwest of Quetta. The first tremor struck at 4:09 am local time (23:09 GMT) at a depth of 10 kilometer while the second one came at 5:15 am. The most affected region is the mountainous area extending from Ziarat, about 110 KMs northeast of Quetta to Pishin and Qilla Abdullah to Chaman (border town along Afghan border). According to the provincial government, a total of 166 people lost lives while more than 357 have been injured. Aftershocks were felt in the affected areas for over a week. The reports recorded 85-90% houses were severely damaged or completely destroyed.

In Ziarat and Pishin, the temperature was dropping between -2 and -9 degree centigrade during the night. The weather conditions were very harsh due to rain and snowfall in the affected areas which continued throughout the operations period.

The most affected district in Ziarat were Kuch and Khawas union councils where 1,787 homes have been completely destroyed and 70 houses partially destroyed, leaving approximately 17 – 20,000 people homeless and displaced. 96% of the targeted union councils were completely destroyed mainly in terms of infrastructure, water supply schemes and livestock. Affectees immediately needed appropriate winterized shelter, blankets and essential non-food items. Damage to livestock was also widespread with cows, sheep and goats buried under the livestock barns. Agricultural land got affected through the damage of collapsed water supply schemes and underground water channels. BHUs and educational institutes (boys and girls schools) were either completely or partially damaged.

In view of large scale devastation, Pakistan army, government bodies i.e. National Disaster Management Authority (NDMA), Provincial Disaster Management Authority (PDMA), UN agencies, I/NGOs, and volunteer private donors came ahead to respond to the emergency situation. Government focused on district Ziarat due to massive scale destruction and in order to support government and army operation, many I/NGOs quickly established their emergency operations in Ziarat area. This developed an influx of INGOs operating in this area. Meanwhile ARC coordinated with the civil and military authorities and the UN forum; we recognized desperately needed humanitarian assistance in the Pishin district. ARC rapidly responded in Rod Mullazai union council of Pishin district as it recorded category A and had not received any assistance till that time. The disaster management authorities destruction-wise categorized the area into A, B, C, D and E categories.

Category A: Houses completely destructed and major loss of life, affected community in this category received a compensation amount of PKR 550,000 from government.

Category B: Houses with major damage, fewer human deaths and houses not appropriate for human habitation. Affected community in this category received a compensation amount of PKR350,000 from government.

Category C: Houses with intermediate damage and repairable. Affected community in this category received a compensation amount of PKR 50,000 from government.

Category D: Houses with minor damage and people with injuries and no deaths. Affected community in this category received a compensation amount of PKR15,000 from government.

Category E: Houses with no or slight damage, people with no or minor injuries and no deaths. Affected community in this category received a compensation amount of PKR 5,000 from government.

ARC was working for the category A & B which consists of the community, most affected by the earthquake in the area. Other categories with minor damage were assisted by other organizations that joined the area after ARC.

Estimated Numbers at a Glance		**Source**
Total Dead	166	NDMA[1]- November 5, 2008
Total Injured	357	NDMA- November 5, 2008
Total Affected Population	35,000	U.N.- November 5, 2008

USAID- Pakistan Earthquake, Fact Sheet #2, Fiscal Year (FY) 2009, November 6, 2008

The emergency shelter cluster identified an immediate need of 13,000 winterized shelters. ARC in partnership with USAID/OFDA committed 300 shelters for families and also constructed 52 shelter rooms in 13 health facilities financed by ODRP and INQALAB International. Sanitation part and Provision of Non-Food Items was an integrated part of ARC shelter program, to fulfill this responsibility ARC has constructed 150 latrines and distributed comprehensive NFIs package.

ARC's Profile

Founded in 1979, ARC is an international nonprofit, nonsectarian organization that has provided health care, humanitarian aid and training to millions of refugees and displaced people over the past 27 years. In the mid-1980s it expanded to serve refugees first in Africa and later in Central Asia and Europe as the scale of the refugee problem grew in the 1990s. Today ARC works around the world helping victims of civil conflict and natural disasters rebuild their lives. ARC programs in Africa, Central and South East Asia, provide primary and comprehensive reproductive health care, water and sanitation, shelter repair, legal aid, trauma counseling, micro-credit, community development services, employment training and repatriation assistance to nearly one million people annually. ARC provides life supporting and self-reliance assistance in the following sectors: water and sanitation; camp management; primary and curative health care; community health education and awareness; vocational health training; HIV/AIDS awareness and prevention; mother/child health care, including emergency obstetrics; gender-based violence (GBV) prevention and counseling; emergency shelter assistance and transition services. ARC takes a community-based approach to developing and implementing all programs and encourages beneficiaries to take as much ownership and responsibility as possible. ARC is able to mobilize communities around joint projects with groups of multiple ethnicities as a way of enhancing local governance and stabilizing communities. ARC involves beneficiaries in the planning and implementation of programs. This participatory approach is critical to the sustainability of our programs through listening to the people it serves, understanding existing problems, designing practical responses and finally training survivors to continue the work after ARC leaves. ARC works for the survival, health and well being of refugees, displaced people, and those at risk,

[1] GOP National Disaster Management Authority (NDMA)

enabling them to rebuild productive lives of dignity and purpose, striving always to respect their values. Beyond its direct implementation work, ARC is an active participant in professional networks that promote learning and increasing the quality of programs. For example, ARC works with the Small Enterprise Education Program Network (SEEP) to improve the standard of livelihood programming in post-conflict and post-disaster settings. Similarly, ARC is a member of the Reproductive Health Response in Conflict Consortium (RHRC), which promotes sustained access to comprehensive, high quality reproductive health programs in emergencies.

Program Overview

Project Goal

"To address the essential early recovery needs of recent earthquake affected communities in Districts Pishin, Balochistan, Pakistan through an integrated program of transitional shelters and latrine construction"

Program Objective

Objective 1: To construct 300 shelters for a population of 2,100 extremely vulnerable population in most affected villages in District Pishin, Balochistan

Implementation activities:

- **Capacity building/ training:** ARC Engineers constructed a pilot shelter unit and trained community (unskilled labour) and carpenters (skilled labour) on technical designs and construction techniques, to construct themselves, under supervision and monitoring of ARC Field Supervisors. Knowledge of the timber structure construction was transferred to the local community so that they can build these shelter structures independently in future.
- **Cash for Work (CfW):** Skilled and unskilled labourers to get daily wages against the work completed as per the work plan. The advantage of cash-for-work being to involve and give ownership to the community to rebuild their lives and to inject economic stability back into the affected populations.
- **Disaster Risk Management:** The technical designs of the transitional shelters were made with keeping in account mitigation against further earthquakes, aftershocks, winter winds, rains, floods and snow. The ARC shelter design was completely earthquake and weather resistant and highly appreciated by community, government and other concerned organizations due to its comfort, beauty and efficiency of construction.
- **Infrastructure rehabilitation:** Construction of transitional shelters of completely destroyed and damaged houses. All the families in the area in category A & B (as nominated by the government) received a transitional shelter, NFIs (Non Food Items i.e. stove, buckets mats, utensils etc.) and Pit Latrine package.
- **Internally displaced persons:** This project worked with extremely vulnerable IDPs, whose houses were completely destroyed and damaged in the earthquake (i.e. Category A & Category B).
- **Livelihoods/ Income generation:** This is linked to Cash-for-work, and brings back income generation into the disaster hit communities. Local population was very much involved in all the project activities like construction, transportation and distribution of NFIs.

- **Market Rehabilitation:** Some of the supplies in the shelter package were procured locally. This supports and rehabilitates the market status in these areas too.
- **Natural Resource Management:** As per the technical design, some supplies were salvaged from the rubble to re-use in the construction of the transitional shelters. This includes timber, which will be re-used instead of getting more. As these are transitional shelters so shelter design was made to keep in mind that the material used in the construction of these shelters can be used in future permanent construction. Most of the material used in the Shelter can be salvaged for permanent construction like CGI roof sheets, timber, Lasani wood sheets etc.

Objective 2: To rehabilitate existing communal latrines in Districts Pishin, Balochistan

- **Capacity building/ Training**: ARC Engineers trained skilled and unskilled labor from the local community (on-job training) while rehabilitating and constructing latrines, under supervision and monitoring of ARC field Supervisors and Senior Engineers
- **Cash-for-work:** Skilled and unskilled laborers get daily wages against the work completed as per the work plan. The advantage of cash-for-work being to involve and give ownership to the community to rebuild their lives and to inject economic stability back into the affected populations.
- **Infrastructure rehabilitation:** Based on the detailed assessment, family latrines were rehabilitated for the worst affected families. One latrine for two families.
- **Internally displaced persons:** This project worked with extremely vulnerable IDPs, whose houses were completely destroyed and damaged in the earthquake (Category A & Category B).
- **Natural Livelihoods/ Income generation:** This is linked to Cash-for-work, as it brings back income generation into the disaster hit communities.

Program Overview

ARC came up with a rapid assessment and situation analysis for comprehensive planning for immediate response to the earthquake. The teams collected available secondary data shared by the Government and INGOs already working in the earthquake hit area. The Shelter cluster, UN agencies, I/NGOs and Government (NDMA, PDMA, FC and Pak Army) jointly conducted a comprehensive multi cluster approached based (McRAM) Survey. On the basis of available data from McRAM Survey, government categorized the level of damages as A1, B1, C, D, and E, the category A and B declared as completely and major damages.

Pakistan Army on request of NDMA initiated a comprehensive door to door survey and through provincial government and shelter cluster shared with the agencies working in affected areas. Pakistan Army in consultation with the local authorities, district Nazims and DCOs, allocated the specified areas of operations to different organizations to avoid the duplication of the same interventions; in this way ARC got Rod mullazai which falls under category A1 in District Pishin. Another huge need came up through Shelter cluster that the Government requested to provide shelter to affected health facilities in the area. ARC team along with Health department through DCO Pishin visited all the affected Health facilities, came up with conclusion that there are 13 health facilities (including Tehsil headquarter hospital in Khanozai) are damaged and patients and Medical staff facing serious problems of alternate spaces. ARC field team discussed the situation with senior management team at Islamabad. This all happens because the ARC team worked

rapidly keeping in mind the harsh weather and destroyed houses in the area. Thus ARC team completed the construction of 300 hundred shelters in the initial two months of the project and after availability of new funds from ODRP and INQALAB (private funds) started the construction of shelters for damaged health facilities in district Pishin after approval.

The provision of emergency and transitional shelters to the affected communities and health facilities have been vital to secure people from severe winter weather conditions, earthquake after shocks, and further death and destruction. ARC planned to provide transitional nature shelter units to protect the earthquake victims, patients and medical staff by constructing 300 shelters with NFIs and 150 latrines for 2,100 extremely vulnerable individual families and 52 shelters in 13 health facilities.

Summary of Damages

District	Completely destroyed	Partially destroyed	Total houses damaged	Population affected	%age
Harnai	278	370	648	6,549	10
Pishin	956	2,294	3,250	27,021	40
Ziarat	2,254	1,460	3,714	34,630	51
Total	3,487	4,125	7,612	68,200	100

Death toll

Age group	**%age**
No of death of male > 5 years	34.6
No of death of female > 5 years	28.5
No of death of male < 5 years	23.1
No of death of female < 5 years	13.8

Need Assessment

Approximately 85% of the housing stock in the affected villages has been adobe construction with walls made up of undressed stones, mud and Juniper logs used as beams and Juniper bark thatching for roofs. The logs are easily available from the nearby mountains. Some houses in the valley bottoms were constructed with unbaked mud bricks for walls which were the main cause of infrastructure damage in these villages, as they collapsed easily with the strong jolt. A very small percentage of the houses are made with cast iron or steel beams and CGI sheets for roofing, and t burned brick and cement constructions with CGI or concrete RCC roof slabs are only seen for government offices. Most villages in these affected Union Councils have seen 95 – 100% destruction of households, with complete villages wiped out with most damage to infrastructure and livestock. According to the survey of 36 villages in the three earthquake affected districts of Balochistan (Ziarat, Pishin, Harnai) conducted by MaRam (Multi- Cluster Rapid Assessment, Mechanism), Ziarat is the worst affected. Around 68,200 people were affected in these areas and needed assistance.

Summery of Damages According to McRAM:

District	Completely Destroyed	Partially Destroyed	Total Houses Damaged	Population Affected	%age
Harnai	278	370	648	6549	10
Pishin	956	2294	3250	27021	40
Ziarat	2254	1460	3714	34630	51
Total	3487	4125	7612	68200	100

Demographic profile of the targeted and reached population

Before 1975 Quetta and Pishin was a single administrative unit. In 1975, Pishin was separated from Quetta due to administrative reasons and was given the status of a district on 18th January 1975. The district consists of one tehsil Pishin, and three sub-tehsils: Huramzai, Barshore and Karezat. In 1993 Pishin was bifurcated into Pishin district and Killa Abdullah district. Now there are three districts Quetta, Pishin and Killa Abdullah which before partition came under one administrative division, known as Quetta Pishin division.

Pishin district lies between 30°35'0N, 67°0'0E. The district is bounded by Qilla Abdullah in the north, Qila Saifullah in the east, Quetta and Ziarat in the south and Afghanistan in the west. Its length form north to south is about 68 km and its width from east to west ranges from 8 to 38 km. The area of the Pishin district is 5,850 sq. km. The mountains are fairly uniform, with long central ridges from which frequent spurs descend. These spurs vary in elevation from about 1,500 to 3,300 meters.

***Climate*:** The climate of Pishin is generally dry and extreme cold weather recorded in the winters and hottest in summers. Quetta and Qila Abdullah, two adjoining districts are having the same weather conditions. The climate of Pishin valley is eminently suitable for the growing of fruits. The summer is the most delightful time of the year; winters can be bitterly cold. Like other parts of Balochistan, Pishin lies outside the sphere of monsoon currents. Rainfall is irregular and scanty. In winter the district is affected by storms. Most of the roads in the district are shingle roads. Due to the dry climate they can be used throughout the year. However, the dry weather is not favorable for livestock, because in the absence of rains vegetation does not grow. Further, owing to irregular rainfall farmers of rain-fed areas cannot plan their crops properly.

Housing: Housing is the basic need of the society. There is a severe shortage of houses in Pishin. The housing facilities are inadequate and their quality is also below standards. Most of the houses are constructed with mud and unbaked bricks, without proper toilet and drainage facilities. The houses are constructed without any planning or design and without approval of the municipal committee. In urban areas of Pishin, due to greater increase in population and migration from rural to urban areas, the housing problem is becoming more acute. The streets are very narrow and without street lights. In the rural areas the quality of the houses is even lower, with the difference that the houses are spacious, and they lack proper sewerage and sanitation systems.
Although the area lies on an eminent seismic zone but private buildings and houses are far away from the basis earthquake resistant techniques. People of the area are not well aware of the seismic resistant construction and this is the major reason of destruction after the earthquake.

Stakeholders

The key stakeholders were the Local Community, Community Based Organizations/ Village Organizations and local activists. The Government Agencies and line departments, the UN Agencies, Police and Pakistan Army, Local NGOs and Community village groups remained active partners throughout the project duration.

Staffing

ARC hired qualified and professional staff for shelter program from Balochistan and dispatched a small team of experts from Bagh, AJK, where ARC has been operation its community development and infrastructure rehabilitation projects in the earthquake 2005 affected areas. ARC advertised the project staff vacancies and adopted a transparent recruitment process. Some staff, who has worked with ARC in Kharan emergency program, also came along to support the project implementation as they had a better knowledge of the cultural and climatic settings of the destructed areas. Project team was lead by Project Manager and comprised on a Project Engineer, Field Coordinator, Assistant Admin Officer, Assistant Logistics Officer, Store Keeper, 5 Site Supervisors, and 4 Distributors. Most of staff was hired from the community for sustainability of our interventions, quality assurance and proper distribution.

Design

ARC in consultation with Donor and Technical working group of Shelter cluster designed a shelter structure based on sphere and engineering standards (earthquake resistant structure). The total provided area was 24.53 square meters (11ft. x 24 ft.) and a partition wall made up of wood sheet was fixed to divide the shelter into two rooms. ARC designed shelter was thoroughly examined by shelter cluster technical working committee (comments are attached for reference) and discussed with Donor prior to construction.

Some detail of the ARC's earthquake resistant temporary, transitional shelters are;

Size: Length of the shelter was 24 feet with a width of 11 feet. Thus the total covered area of the transitional shelter was 264 square feet (24.53m2). The sphere standards suggest minimum of 38 sq. ft. (3.5m2) covered area per person. A single shelter was provided for a family of seven persons, thus very much complies with the Sphere standards

Shape: The shelter was further divided into two rooms by timber diagonal bracings with wood sheets. Hence became two regular squarer shaped rooms which were more earthquake resistant.

Foundations: Foundations plays a vital role in seismic resistant structures. ARC Shelter foundations were 1'-6" ft. (450mm) deep, fixed in solid soil and were properly linked with the above structure.

Frame: All the structure was the portal timber frame with diagonal vertical and horizontal bracings which made it seismic resistant and strong against the wind and snow loads. A roof plate/ ring beam at the top of the wall was given for proper anchorage and stability.

Roof: CGI sheets 13' X 3.5' (25 gauge) were provided for the shelter roof with an appropriate slope to drain the rain and snow. Diagonal and horizontal bracings were provided underside of the rafters.

Walls & insulation: Walls were built within the timber frame with ½ inch thick (8' x 4') Lasani wood sheets. Further it was covered with Mazary (PEECH) mats (locally available mats made with dried palm & date tree leaves) interiorly and with plastic sheet exteriorly to keep the shelter dry from rain. Locally available insulating materials like straw, tree bark and hay were also provided in between the wood sheets and Mazary (PEECH) mats in walls and ceiling to make it more warm and weather resistant.

Flooring: Compacted rubble/soil with straw was used for flooring. Further it was covered with the plastic sheeting which formed a waterproof floor membrane.

Drainage: A Drainage channel was dug around the shelter along with a soil hump made at the base of the walls.

Materials

ARC logistics team played a vital role for the arrangement of required materials, in terms of procurement, transportation of material especially in harsh weather and the difficult mountainous area. ARC technical team chose suitable, weather resistant, easy available, and easy to construct materials for construction of Shelter. The team faced some difficulty in the delivery of timber which was procured from Karachi, as the specific construction sizes were not available in Quetta city. The construction was put on hold whenever the required sizes of timber were not available.

The following materials has been used for ARC designed Shelter construction;

- Timber (Partal)
- CGI Sheets
- Lasani (wooden Sheet)
- Mazzary (PEESH)
- Plastic sheet and tools kit

Table below shows detailed breakdown of shelter package material for a single shelter:

Sr. No.	Item Description	Size	Length (feet)	Width (feet)	Qty	UNIT
1	TIMBER	x-section				
1a	Timber for vertical support	3" X 4"	7	-	7	Number
1b	Timber for vertical support	3" X 4"	9	-	7	Number
1c	Timber for roof rafter & Horizontal Bracing in walls	3" X 4"	12	-	25	Number
1d	Timber for diagonal bracings in walls	3" X 2"	6	-	32	Number
1e	Timber for roof purlins	3" X 2"	7	-	16	Number
2	CGI Sheet	25 Gauge	13'	3.5'	9	Number
3	Lasani Wood Sheet	½" Thick	8'	4'	17	Number
4	Plastic Sheet	1980 sq. ft	105'	16'	1980	Sqft
5	Mazzary Peessh Chatai/ mat					
5a	Mazzary Peessh Chatai for roof	300 sq. ft	25'	12'	300	Sqft
5b	Mazzary Peessh Chatai for side wall 1	225 sq. ft	9'	25'	225	Sqft
5c	Mazzary Peessh Chatai for side wall 2	175 sq. ft	7'	25'	175	Sqft
5d	Mazzary Peessh Chatai for front wall	99 sq. ft	11'	9'	99	Sqft
5e	Mazzary Peessh Chatai for back wall	72 sq. ft	8'	9'	72	Sqft
5f	Mazzary Peessh Chatai for floor	300 sq. ft	25'	12'	300	Sqft
6	TOOL KIT					

	Nails, Shovel, Pick, Saw, Hammer, Screws etc.	-	-	-	1	Number

Cash for Work

ARC has planned to help the earthquake victims through on-job skill development /enhancement to enable and involve the target community directly in the program. Cash for work (CfW) is an important activity under ARC/OFDA emergency response program, the chief aim to pay cash for work is to ensure participation and to enable the community to own the project interventions and replicate in future. Cash for work scheme helped the affected population take control of their lives and generate some livelihoods for themselves and their families affected in the earthquake. Under the CfW scheme, ARC hired 17 skilled carpenters, 21 semi-skilled carpenters (helpers), and 92 unskilled (volunteers) from Khanozai and Rodth Mulazai. They worked in groups and the group formation was one carpenter, one helper, and 3 volunteers; and the group worked on one shelter unit at one time. The Cash for Work activity has helped them to construct their shelters and it has been a great support to their livelihoods as well. The beneficiaries contributed a lot in term of kind they worked with carpenters as self-help labour.

ARC shelter team reached the far-flung worst destructed areas that were difficult to access and have not received adequate, or in some cases any emergency assistance. The shelter construction was carried out under the CfW scheme. Material such as doors, windows, soil/mud, stoves, floor mats and some wood were community's responsibility to obtain from salvaged material. The major construction material which included CGI sheets, *Lasani* wood, bamboo/timber poles, tool kits and transportation were provided by ARC. The idea was that the transitional shelter unit material will be reused by the community for construction of permanent houses.

Distribution

ARC hired 4 distributors and 5 supervisors for distribution of shelter items of the comprehensive shelter packages. ARC organized to delivered shelter kits including timber, CGI Sheets, Lasani wood sheets, and Insulation material, Plastic sheets, Tool Kits, to each beneficiary of Category A & Category B. ARC team also distributed NFIs package with each shelter which includes the daily use utensils, floor mats, buckets and heating & cooking stove with exhaust pipe.

Shelter Construction

ARC undertook the complete construction of 300 shelters suitable for average family size in Balochistan. It was estimated that an average family in the affected areas has 7–10 members per household. The health facilities were the part of shelter program and it was also a great challenge because of non-availability of skilled labor, construction materials and harsh winter conditions. It was "race against the time". The local carpenters were initially trained on demo shelter in the villages and than they were able to construct the shelters under supervision of ARC staff and monitored by EDHO, and Local authorities, ARC Senior management, PDMA, NDMA, Shelter cluster and UN agencies like UNHBITAT. The shelter team identified extremely vulnerable families and constructed 300 shelter units along with shelter package and complete technical assistance in shape of skilled carpenters, who further trained the semi-skilled and non-skilled volunteers from community. Community uses the doors, windows and sand/soil for the flooring and hump from the ruble of destroyed houses.

Sanitation Component

Hygiene and sanitation practices in District Pishin prior to the earthquake had standard basic hygiene requirements, but mostly only for women. Men practiced open defecation in the fields. These were proper latrines with water supply, instead of pit latrines. Hence, this community was aware on the use of latrines, normally with 2-3 families sharing one latrine. ARC team conducted a detailed assessment for planning on the provision of emergency pit latrines in existing areas (where these were in use, and so not to introduce the concept again). ARC received in-kind contribution of latrine slabs from UNICEF for construction of 150 latrines, bamboo poles and plastic sheets to construct these emergency latrines. These latrines were constructed by the community themselves with the technical assistant of ARC. The household sanitation component of the WASH project focused on the provision of adequate sanitation systems such as construction and installation of communal and individual latrines, identification of safe zones especially for latrines and excreta disposal; waste control, and safe disposal of garbage and complimented by health and hygiene education.

The latrine structure comprised of the following material:

- Bamboos (09 no.)
- 138 square feet Plastic sheet,
- Latrines fiber glass slab (01 no.)
- and tools kit

Provided pit latrine was the standard pit latrine design with a bamboo pole frame covered with a thick plastic sheet. Pit was further covered with a standard fiber glass latrine slab. Drawing plan is attached with this document. (See annex A)

Reconstruction and Rehabilitation of Health Facilities

The completion of construction of 300 shelter houses under ARC/OFDA project was highly appreciated by the district authorities, shelter cluster, and the communities. At district level in Pishin, a joint committee was formed comprising EDHO health person, DCO nominated person and ARC staff for monitoring and confirmation of quantitative and quality of shelter construction. They monitored and found the quality and quantity satisfactory and therefore approved ARC to further work to improve health facility conditions in the area. The health facilities project was separately funded by ODRP and INQALAB International.

Total beneficiaries in Five Union councils Tehsil Karezat

S. No	District	Union Council	Families	Total Population	Total Affected Population
01	**Pishin**	Rud Malazai	2086	14600	13355
02		Dilsora	2078	14547	14478
03		Balozai	1655	11583	11083

04		Khanozai	1105	7732	7723
05		Khushab	1727	12086	11989
	TOTAL		8650	**60548**	**58628**

Affected Health facilities in 5 Union councils of Tehsil Karezat, Pishin

1. Tehsil Headquarter Hospital (THQ) Khanozai
2. MCH Khanozai
3. BHU Niganda
4. BHU Balaoza
5. BHU Shiran
6. Civil dispensary Churmian
7. Civil dispensary Sameza
8. BHU Tora Aghbargai
9. Civil dispensary Eskaro Ragha Rodmullazai
10. BHU Tazi Kach
11. BHU yousaf Kach
12. Health Axiliary Dilsora
13. Health Axiliary Murgha Zikaria Zai

ARC with coordination of Government Health officials in the area selected the buildings of damaged health facilities and provided the shelter to the each facility according to the need. All the design of the shelter is same as shelters provided to the community except its area is different i.e. (12' x 11') See table below;

DETAILS OF SHELTERS PROVIDED TO THE HEALTH FACILITIES IN DISTRICT PISHIN.

Sr.#	Health Facility	No. of Shelters	No. of Rooms
1	Tehsil Headquarter Hospital Khanozai	13 +3 in veranda	1 ward+ 9 rooms
2	MCH Khanozai	8	1 ward +3 rooms
3	BHU Niganda	4	4 rooms
4	BHU Balozai	4	4 rooms
5	BHU Shiran	2	3 rooms
6	Civil Dispensary Chumrian	2	2 rooms
7	Civil Dispensary Sameza	2	2 rooms
8	BHU Torag Bargai	2	3 rooms
9	Civil Dispensary Eskaror Agah	2	2 rooms
10	BHU Tazi Kuch	4	4 rooms
11	BHU Yousaf Kuch	2	2 rooms
12	Health Auxilary Dilsora	2	2 rooms
13	Health Auxilary Murgha zikaria	2	2 rooms
	TOTAL	**52**	**2 Wards+ 42 Rooms**

Project Monitoring

ARC activities were monitored in conjunction with ARC's code of conduct and in close coordination with the Shelter cluster administered by UN Habitat. The Shelter Cluster comprised of government bodies i.e. NDMA and PDMA, UN Habitat and other agencies, I/NGOs, and a 16 member committee based on local population. The cluster meetings were held each after 14 days in district Ziarat, and on weekly basis in district Pishin, chaired by the District Coordination

Officer (DCO). ARC engineers and Project Manager monitored the program activities through various mechanisms. Qualitative and quantitative data was collected initially through detailed surveys and then on a regular basis. Performance measurement and expected performance targets for each objective were prepared and presented in the proposal so that ARC and OFDA could accurately assess if the objectives had been achieved.

Progress on activities was monitored through a detailed timeline to ensure effective planning and accountability. The project engineers visited the sites on daily basis to ensure on time delivery of supplies and the quality of timber and the standards of shelter construction. The minimum standards for shelter construction were identified by the shelter cluster in order to overcome the affects of disaster and challenging weather. The shelter design was weather and earthquake resistant and culturally accepted.

Through the extra ordinary staff setup in the place, ARC managed to keep the track of the project activities. The Union council Nazim directly monitored ARC activities and verified by signing and stamping the forms.

Throughout the project at any given time a total of 17 carpenters (skilled), 21 semi-skilled and 92 volunteers were engaged by ARC, under the "cash for work" program. In view of need and unavailability of skilled labour, the selected carpenters constructed and trained the community members hence enabling them to help construct shelter houses for their families.

Coordination system

ARC has worked in close coordination and thorough discussions with (a) Shelter Cluster (b) NDMA (c) Pakistan Army who was leading the operations at that time (d) Local Authorities i.e. Nazims and DCOs and (e) through the rapid situation analysis of ARC team. ARC Shared the transitional shelter unit technical design with Shelter cluster, local community members, Pakistan Army and NDMA and got approval to go ahead on implementation process. ARC regularly participated in all the cluster and coordination meetings during the project time shared the updates on on-going work and challenges faced at field level.

Constraints/Challenges

- Initially faced difficulties for selection of areas through initial coordination system but shelter cluster immediately got in coordination with government agencies and resolved this issue in a timely manner. In beginning ARC was granted permission to work in district Ziarat which had incurred major destruction and losses of life. The government has efficiently been involved along with the UN and international humanitarian organizations and immediately took control of most destructed areas in district Ziarat. Due to an influx of I/NGOs, government advised ARC to launch emergency operation in Rod Mullazai union council of district Pishin as no other organizations have responded to the destructed areas thus far.

- ARC shelter team faced difficulties in hiring of skilled staff and labour locally. ARC proposed shelter design involved huge timer work and it was first time introduced in our target areas. The local people offered skills on masonry, plumbing, steel fixing but no skilled timber carpenters were available. ARC shelter team recruited 17 skilled carpenters

from far-off place of entire district Pishin who further trained semi-skilled and volunteers from community.

- Transportation of carpenters was a big challenge as they came from distant places. And due to damaged road condition and lack of any public transport system, ARC had to provide to/from project site transport to the carpenters.

- Timely delivery of material and further shelter construction on time is a big challenge. Due to the Eid and New Year / winter vacations most of the market was closed and only a few vendors agreed to deliver the material in those harsh areas. Therefore ARC Team had to work very fast so that the shelter can be provided to the affected community before the snow fall.

- As ARC working area was very harsh and cold, roads were damaged and whenever it rained whole transportation and construction process came to halt. Thus the precious time wasted and work slowed down for a couple of days.

Lessons Learned

- Government/UN clusters coordination system was very much effective to avoid the duplication of relief operation in different areas.

- Timely response, proper distribution mechanism built the trust between community and organization and they actively participated in construction activities.

- Direct involvement of community in the project activities also effectively contributed to the capacity building and suitability of the physical resources provided with support from OFDA, ODRP, and INQALAB International.

Achievement against Objectives

The overall project target achievement is reflected in table below. ARC in partnership with USAID/OFDA completed construction of 300 shelter house and 150 latrines complementary to resolve sanitation related problems. Keeping in view the basic needs of the affected population, ARC shelter team constructed another 52 shelter units to rehabilitate and get functional 13 health facilities damaged in district Pishin. Total 60,548 beneficiaries in 5 union councils of Pishin benefited from this intervention and 100% results achieved in terms of provision of completely constructed shelters and construction of 02 Latrines as per sphere standard to all 13 affected health facilities in District Pishin.

Indicators Table:

Sector: 1	**Shelter and Settlements (S & S)**	
Objective 1:	To construct 300 shelters for extremely vulnerable population in most affected villages in **Pishin District,** Balochistan	

Sub-Sector- 1:	Transitional Shelter	Achieved
Indicator A:	Number of families receiving shelter according to SPHERE Guidelines (Target **300** families)	300 shelters completed according to SPHERE standards
Sub- Sector- 2:	**Shelter Hazard Mitigation**	
Indicator A:	Number of shelters incorporating hazard mitigation measures (Target **300** shelters)	300 shelters adopting hazard mitigation measures
Indicator B:	Number of settlements adopting hazard mitigation measures (Target **300** families)	300 settlements adopted hazard mitigation measures

Sector: 2	**Water, Sanitation and Hygiene (WASH)**	
Objective 2:	To rehabilitate existing family latrines in **Pishin District**	
Sub-Sector-1	**Sanitation (Household Level)**	
Indicator A:	Number of household latrines constructed **(Target 150 family latrines- 1 latrine for two families)**	150 latrines completed
Indicator B:	Number of beneficiaries benefiting from family latrines (Target **3000**)	3,000 beneficiaries benefiting from family latrines

Input, Output, Impact of the Project Activities:

Input	Activity	Outcome/Impact
Hiring and services of staff	Quality implementation of project activities completed 300 shelters	Benefited the earthquake victims in professional manner and target of 13 Health Facilities. Patients and visiting health facility with confident and medical staff delivers services effectively.
Transportation of materials	Materials reached to the recipients safely	All the types of losses were controlled. Timely response becomes possible.
Hiring of local monitors	Quality implementation was assured	Local staff benefited from "cash for work" by supported livelihoods
Hiring of local carpenters	130 local labours (i.e. skilled carpenters, semi-skilled carpenter and unskilled volunteers) technically assisted the community	Local population benefited from "cash for work" scheme

Rehabilitated 13 health units	Constructed 52 shelter rooms under 13 health facilities	Most of the health facilities are damaged and needed repair/reconstruction. 60548 individuals including vulnerable groups benefited. Target vulnerable beneficiary group saved from winter related diseases. ARC constructed dry and warm rooms for delivery of health service.
Clinical sanitation	Constructed 02 latrines per health facility	Children who were especially vulnerable to diseases such as diarrhea and cholera were the main beneficiaries. A number of diseases have been reported by the inhabitants due to poor sanitation.